

S-E-C-R-E-T

80

INTELLIGENCE MEMORANDUM

AN EVALUATION OF THE NEW SOVIET STATISTICAL HANDBOOK
"THE NATIONAL ECONOMY OF THE USSR"

CIA/RR IM-435

8 October 1956

WARNING

THIS MATERIAL CONTAINS INFORMATION AFFECTING THE
NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE
MEANING OF THE ESPIONAGE LAWS, TITLE 18, USC, SECS.
793 AND 794, THE TRANSMISSION OR REVELATION OF
WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS
PROHIBITED BY LAW.

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

S-E-C-R-E-T

S-E-C-R-E-T

CONTENTS

| | <u>Page</u> |
|--|-------------|
| Summary and Conclusions | 1 |
| I. Introduction | 2 |
| II. Significant Information | 5 |
| A. Population and Labor Force | 6 |
| B. Fixed Capital and Capital Investment | 10 |
| 1. Fixed Capital | 10 |
| 2. Capital Investment | 11 |
| C. Productivity and Wages | 15 |
| D. Industrial Production | 15 |
| 1. Value of Gross Industrial Production, 1954 | 16 |
| 2. Soviet Failure in Production of Cotton Pickers | 17 |
| 3. Larger Inventory of Metalforming Machinery Than Previously Estimated | 17 |
| E. Agriculture | 18 |
| F. Transport and Communications | 18 |
| G. Foreign Trade | 19 |
| H. Index of Per Capita Consumption | 20 |
| I. Price and Cost Movements, 1950-55 | 20 |
| J. Education and Training | 21 |
| K. Regional Data | 21 |
| L. Military Production Index | 23 |
| III. Significance of Omissions of Data | 23 |

Appendixes

| | |
|--|----|
| Appendix A. Statistical Tables | 25 |
| Appendix B. Source References | 29 |

- iii -

S-E-C-R-E-T

S-E-C-R-E-T

Tables

| | <u>Page</u> |
|--|-------------|
| 1. Number of Pages Devoted to Major Topics in <u>National Economy</u> , 1956, and in <u>Socialist Construction</u> , 1936 and 1939 | 4 |
| 2. Number of Workers and Employees in the USSR, 1950 and 1955 | 7 |
| 3. Average Increase Per Year in the Fixed Assets of the USSR, 1928-40 and 1950-55 | 11 |
| 4. Decentralized Capital Investment in the USSR, by Plan Period | 13 |
| 5. Construction-Assembly Work as a Percentage of Total Capital Investment in the USSR, Derived from Two Bases, 1928-34 | 14 |
| 6. Commodity Composition of Foreign Trade in the USSR, 1938, 1950, 1954, and 1955 | 19 |
| 7. Indexes of Price and Cost Movements in the USSR, 1950-55 | 22 |
| 8. Effect of Revised Value-Added Weights on the Index of Industrial Production in the USSR, 1948-61 . . . | 25 |
| 9. Effect of Data Revisions on the Index of Agricultural Machinery in the USSR, 1948-61 | 27 |

- iv -

S-E-C-R-E-T

CIA/RR IM-435
(ORR Project 14.1612)

S-E-C-R-E-T

AN EVALUATION OF THE NEW SOVIET STATISTICAL HANDBOOK
"THE NATIONAL ECONOMY OF THE USSR"

Summary and Conclusions

The publication of the new Soviet statistical handbook, The National Economy of the USSR (Narodnoye khozyaystvo SSSR), 1/* has two primary consequences for the intelligence community. First, it releases some new information which is of great value in the analysis of the Soviet economy even though much of the data in the handbook had been previously announced. Second, it indicates a relaxation of control over the release of economic information, a change which can have a significant effect on the intelligence effort of the US.

This memorandum assesses some of the new information and indicates its significance, either in terms of the revision of previous CIA estimates or in terms of the expansion of our information horizon. The most significant revisions are in the population estimates** and in the estimates of the postwar increase in living standards per capita. Of significance to long-term economic projections is the possibility, emerging from studies in progress, that additions to the Soviet labor force, despite normal population growth, will not return to the level of the Fifth Five Year Plan (1951-55) from future depressed levels until some time during the Ninth Five Year Plan (1971-75). During this period, annual additions to the US labor force will approach the size of annual additions to the Soviet labor force.

National Economy, the new handbook, is (1) a compilation of basic economic information relevant to the Soviet economy and (2) a listing of the achievements of the economy during the years of Communist power, with special emphasis upon selected target years -- pre-Revolutionary

* For serially numbered source references, see Appendix B. The original Soviet text was used in the preparation of this memorandum, but page references in Appendix B are to both the original text and the English translation. For the purpose of uniformity, however, Narodnoye khozyaystvo SSSR will hereafter be referred to as National Economy.

** The new Soviet figure for the population of the USSR is 200 million, whereas the former US estimate was 215 million in 1955.

S-E-C-R-E-T

S-E-C-R-E-T

1913; the first year, 1928, of the Five Year Plans; 1940; 1950; and 1955. The new handbook has thus become a basic source of information which of necessity will be referenced in most future research efforts on the Soviet economy.

Additional significance lies in the information not given. Although application of the discretionary powers of the Council of Ministers over the release of information has been relaxed, there is no evidence of modification of the extensive prohibitions of the State Secrets Act of 1947. The many subjects which are omitted or slighted and which are essential to an evaluation of the Soviet economy include foreign trade, defense, reserves, finance, currency circulation, wages, budgets, profits, investment by industry, and the value of production by each industry. It is possible, however, that the forthcoming supplementary handbooks on separate economic sectors and industries and on individual geographic jurisdictions will add data on these topics.

In recent months there has been official publication of an increasing amount of data not previously to be found in official periodicals and books. The fact that these data are unclassified does not lessen their value. As usual, many of the data are published in an attempt to sell various economic doctrines; some series retain obvious statistical distortions, as the national income data series; but most of the data appear to be consistent and reliable in the face of all checks that can be developed. Side by side with this expanding body of open data lies a clearly delineated blackout area which will continue to assume peculiar importance to intelligence research.

I. Introduction.

"As pointed out at the 20th Party Congress, the dearth of publications of statistical data is one reason for the lag in the creative work of Soviet economists." 2/ The USSR carried centralized state control over the release of economic information to an extreme in peacetime with the promulgation of the State Secrets Act of 8 June 1947. In effect, the Council of Ministers was granted complete discretionary authority over the release of any information concerning the Soviet economy.

- 2 -

S-E-C-R-E-T

S-E-C-R-E-T

From 1947 to 1953 the USSR operated under a statistical black-out as far as the rest of the world was concerned. It is axiomatic that secrecy applied on too broad a scale hamstrings even necessary flows of information, and, by 1955, significant statements by Soviet leaders indicated that this point had long since been reached. For example, in July 1955, Marshal Bulganin called for less restriction on the exchange of information within the USSR on developments in research and technology which were not closely related to state security. After the 20th Party Congress, which called for competition between the economic systems of the East and West, it became more apparent that the USSR would have to permit more publication of information on its own economy, although it was understood that the achievements would be emphasized.

In early June 1956, National Economy, the new statistical handbook, was published. It serves two purposes -- convenience and propaganda -- the latter in the sense of the propagation of doctrine. National Economy has, in general, a slightly better coverage than Socialist Construction of the USSR* (Sotsialisticheskoye stroitel'stvo SSSR), the 1939 handbook, which was published during a statistical dimout preceding World War II, but it has a much less adequate coverage than the 1936 handbook, also entitled Socialist Construction. For a more detailed analysis of the topical coverage in National Economy compared with its predecessors of 1936 and 1939, on the basis of the number of pages devoted to each major topic, see Table 1.**

Important new information is presented in National Economy on the following major subjects: (1) the population of the USSR; (2) the composition of the Soviet labor force and its distribution among occupations; (3) the production of various tools, machinery, and equipment, which will permit revision of the gross production index used in CIA 3/; (4) retail trade, which, in combination with the revised population estimate and other new information, has been utilized in a revision of the CIA index of per capita consumption; (5) several new cost indexes for the postwar period covering retail prices, construction-assembly costs, and prices on the kolkhoz market; (6) capital investment in terms of constant costs for the period 1928-55; (7) the inventory of metalforming equipment, which will require sharp upward revision of the previous estimate; (8) the

* Hereafter referred to as Socialist Construction.

** Table 1 follows on p. 4.

- 3 -

S-E-C-R-E-T

S-E-C-R-E-T

Table 1

Number of Pages Devoted to Major Topics in National Economy, 1956,
and in Socialist Construction, 1936 and 1939

| | "National Economy" | "Socialist Construction" | |
|------------------------------|--------------------|--------------------------|----------------|
| | 1956 <u>a/</u> | 1939 <u>a/</u> | 1936 <u>b/</u> |
| Summary | 21 | 24 | 33 |
| Industry | 53 | 52 | 196 |
| Agriculture | 58 | 21 | 61 |
| Capital construction | 13 | 3 | 6 <u>c/</u> |
| Transport and communications | 12 | 5 | 44 |
| Labor force | 12 | 1 | 41 |
| Domestic trade | 16 | 1 | 12 |
| Foreign trade | 1 | <u>d/</u> | 21 |
| Culture | 20 | 30 | 25 |
| Health | 16 | | 5 |
| Municipal services | <u>d/</u> | | 9 |
| Finance | 0 | 2 | 37 |
| Miscellaneous | 40 | 66 | 48 |
| Total | <u>262</u> | <u>205</u> | <u>538</u> |

a. Russian edition.

b. English edition.

c. Additional coverage in industry and agriculture chapters.

d. Some relevant information is scattered throughout the text of these handbooks.

pattern of foreign trade, making explicit the increased share of machinery and equipment in exports; and (9) the aggregate cost structure of industrial production and of construction activities. National Economy is oriented somewhat along propaganda lines. It emphasizes those subjects of which the Soviet leaders are most proud, such as over-all indexes of economic growth; statistics showing improvement in the supply of consumer goods after 1953; and statistics dealing with agriculture, especially those which show the impact of the "new lands" policy.

- 4 -

S-E-C-R-E-T

S-E-C-R-E-T

The data in Table 1 indicate relatively good coverage in National Economy on the subjects of agriculture and those sectors of the economy most affecting the consumer. On the other hand, coverage in other subjects appears constrained by the basic provisions of the State Secrets Act of 1947.

The State Secrets Act of 1947 prohibited publication of data in the specified fields of (1) state and material reserves; (2) war industries; (3) specified financial information (currency funds, current account balances, operative financial plans of the USSR, and storage and movement of state monetary assets); (4) geological reserves and production of nonferrous metals and rare earths; and (5) import and export information pertaining to "certain" (unspecified) goods. In addition, the Council of Ministers was granted discretionary power to prohibit release of information through two further clauses -- one which prohibited release of any information concerning industries working on military orders and a second which prohibited information "recognized by the Council of Ministers of the USSR as information constituting State Secrets concerning industry as a whole and individual branches of it, agriculture, trade, and transport." National Economy publishes no information on those subjects specifically covered by the State Secrets Act; on the other hand, much of the information which is published implies a relaxation of the discretionary control powers of the Council of Ministers.

While considering the implications of the new handbook in terms of the release of economic information, it should be pointed out that there is some possibility that supplementary information will be published in a series of additional handbooks dealing with individual branches of the economy and with individual geographic regions of the USSR (republics and even oblasts).

II. Significant Information.

In general, National Economy does not drastically alter the picture of the Soviet economy as it has been seen in recent months. Actually, a great deal of significant information had been released during the 20th Party Congress in February 1956, and by June much of

- 5 -

S-E-C-R-E-T

S-E-C-R-E-T

this information had been analyzed. The general impact of the new handbook, especially in the field of production estimates, is not to compel significant revision of the production series for major items but rather to provide new production series for items not covered in official statistics previously released.

The major subjects upon which the new handbook contributes new or supplementary information are discussed below.

A. Population and Labor Force.

The information in the new handbook with the greatest impact on intelligence estimates lies in the topics of population and labor force. The handbook lists the population of the USSR as 200.2 million, approximately 15 million to 19 million less than previous Western estimates. The labor force estimates are currently being reexamined in the light of the revised population estimate, but drastic revision is unlikely, because these estimates were largely based on previous official announcements. Data on persons of voting age in the USSR had been announced previously, and the labor force estimates had been reconciled with these figures. Information on state employment (number of workers and employees) had also been previously given and estimates for the numerical distribution of state employment in 1955 among industry, other nonagricultural employment, and state agricultural employment were very close to the released data. The main impact of the reduction in the population estimates must be borne by the nonworking population, especially in the younger age groups.

Nevertheless, the new information has changed the concept of employment trends during the last 5 years and has raised questions which must be considered in the casting of employment projections for the next 5 years and the longer 15-year projections. It has become clear that it makes a great deal of difference to labor projections whether year-end or annual-average figures are used. To illustrate this point, Table 2* shows the number of workers and employees in the USSR in 1950 and 1955.

The CIA estimates prepared before publication of National Economy were estimates of the size of the labor force as of the beginning of each year. On the whole, they are not substantially different

* Table 2 follows on p. 7.

S-E-C-R-E-T

S-E-C-R-E-T

Table 2
Number of Workers and Employees in the USSR
1950 and 1955

| | Million Workers | | | |
|-----------------------|-------------------|-------------------|-------------------|-------------------|
| | 1950 | | 1955 | |
| Workers and Employees | Annual Average a/ | 1 January 1951 b/ | Annual Average a/ | 1 January 1956 b/ |
| | | | Annual Average | to 1 January 1956 |
| Industry | 14.1 | 14.1 | 17.4 | 3.3 |
| State agricultural | 3.1 | 2.7 | 5.6 | 2.8 |
| Other nonagricultural | 21.7 | 23.0 | 24.9 | 3.4 |
| Total | 38.9 | 39.8 | 47.9 | 9.5 |
| a. 4/ | | | | 8.1 |
| b. Estimate. | | | | |

- 7 -

S-E-C-R-E-T

S-E-C-R-E-T

from estimates prepared later on the basis of the data in the new handbook. The major difference has been caused by a revision of the Soviet data. The total number of workers and employees on 1 January 1951 had been announced as 39.2 million in Soviet publications published before National Economy gave the total as 39.8 million.

It is noteworthy that employment figures during the Fifth Five Year Plan (1951-55) show a more marked increase if annual average employment data are used rather than year-end figures. (See Table 2.) If annual averages are used, the total increase in workers and employees is 9.5 million compared with 8.1 million if year-end figures are used. During the same 5 years (1951-55), annual average employment classified as "nonagricultural other than industry" increased 3.4 million but only an estimated 1.9 million on the basis of year-end data.

In forecasting the 1960 distribution of workers and employees, the key figure is the 1960 target for the total -- 55 million. National Economy has identified this figure as an annual average employment figure, not a year-end figure as previously had been supposed. A strong case can be made that the changes in the annual-average employment are the changes relevant for future projections and that these changes apparently are used by the Soviet planners.

A subject which deserves future study is that of the markedly different movements which emerge from annual-average contrasted with year-end data. It can be hypothesized that seasonal employment factors are at the root of the problem. Such seasonal factors obviously affect employment in state agriculture. To a marked extent, seasonal factors will affect employment in the service industries in a country with severe winters -- in construction, water transport, and motor transport, for example.

Before publication of National Economy, it had seemed that anticipated increases in other nonagricultural employment during the Sixth Five Year Plan (1956-60) were large in respect to previous experience. Now it no longer seems that this is the case, and there is little possibility of absorbing above-plan employment requirements for industry at the expense of increases planned for other nonagricultural employment. As it is likely that industry will have to add more workers than planned in the Sixth Five Year Plan and more than it can obtain from other sectors of the economy (such as agriculture and the service industries) without crippling their performance, the recent demobilizations acquire great economic significance.

- 8 -

S-E-C-R-E-T

S-E-C-R-E-T

The new data published in National Economy tend to underscore the damping effect on labor force additions during 1956-60 caused by the reduced birth rate and loss of children during the war years and suggest that additions to the labor force will not return to the rate of the early 1950's until the Ninth Five Year Plan (1971-75).

On the basis of the new data in National Economy, research is now in progress on reconstructing the composition of the Soviet population according to age groups and sex. It appears not only that war losses will be reflected in reduced acquisitions to the labor force during the Sixth Five Year Plan but also that the post-war decline in birth rate will hold future acquisitions to the labor force below the level of the Fifth Five Year Plan until the Ninth Five Year Plan.* These findings are preliminary and subject to revision. The Soviet figures, especially the announced 1956 figure of 200 million as the total population, must be checked carefully, especially as to the degree of inclusiveness.

Several other significant revisions of estimates stem from the new data. War losses appear to have been higher than previously estimated -- estimated now (tentatively) at 26 million. Estimates of the number of forced laborers have been reduced. The estimate of the postwar rural birth rate is being significantly reduced. It also now appears that there are fewer younger people and more older people in the USSR than estimated before. Full quantification and acceptance of these revisions await detailed studies of the age and sex distribution of the Soviet population. A hypothesis which must be carefully examined is the possibility of a revised definition of Soviet population for the announced 1956 figures, perhaps one excluding the armed forces or members of forced labor camps.

As a byproduct of the revision of the population estimate, some other intelligence estimates must be changed, especially those computed on a per capita basis. Thus the index of per capita consumption has been changed, showing that the Soviet consumer is better off than had been believed previously and that the cost of forced industrialization since the war, although great, has been overestimated.

* This estimate is based on the following assumptions: (1) there will be no infusions of labor force from outside sources, such as demobilization; and (2) there will be no increase in age-group participation rate (ratio of those employed to those employable).

- 9 -

S-E-C-R-E-T

S-E-C-R-E-T

As a result of data changes brought about by National Economy, total per capita consumption, previously believed to be 20 percent above that of 1928, now is estimated to be about 40 percent above. Per capita food consumption, previously estimated to have declined 15 percent since 1928, now is estimated to have declined only 4 percent.

B. Fixed Capital and Capital Investment.

The study of the growth of the Soviet economy is closely linked with analysis of the productive assets, such as fixed capital (plant and equipment), and with analysis of annual capital investment (which comprises basically additions to plant and equipment).

1. Fixed Capital.

National Economy gives some important new capital stock data which, although changing no basic estimates, support some current estimates and will be important to further research. A table in the text 5/ which gives the share distribution of total industrial fixed assets among the component industries (in percentage terms) may be very useful in future research concerned with capital-output ratios. The same table indicates an increase in the proportionate share of total industrial assets for the coal, petroleum, electric power, and construction materials industries and a decline in the share for the chemicals, metal fabricating, machine construction, and light and food industries during the Fifth Five Year Plan (1951-55). These shifts in shares agree with an increasingly significant fact in contemporary Soviet investment policy -- the need for extensive investment in the power and materials industries.

To a large extent, growth trends in capital assets are the reflection of investment policy. Soviet investment policies have undergone significant changes in the postwar period. Table 3,* which has been derived from data presented in the new handbook, 6/ shows growth trends of the fixed assets of the USSR, as an average increase per year, in 1928-40 and 1950-55. Significantly different patterns of growth apply on the one hand to the period 1928-40 and on the other hand to 1951-55, especially for agriculture and for transport and communications. Although fixed assets in agriculture increased at an annual rate of 7.4 percent during 1928-40, the rate increased

* Table 3 follows on p. 11.

S-E-C-R-E-T

S-E-C-R-E-T

to 13.2 percent per year during 1950-55. In transport and communications the average annual rate of growth in fixed assets dropped from 11.5 percent during 1928-40 to 5.9 percent during 1950-55.

Table 3

* Average Increase Per Year in the Fixed Assets
of the USSR
1928-40 and 1950-55

| | Percent | |
|------------------------------|----------------|----------------|
| <u>Fixed Assets</u> | <u>1928-40</u> | <u>1950-55</u> |
| Total fixed assets | 10.0 | 8.7 |
| Productive fixed assets | 13.2 | 10.4 |
| Industry and construction | 19.2 | 11.5 |
| Agriculture | 7.4 | 13.2 |
| Transport and communications | 11.5 | 5.9 |
| Nonproductive fixed assets | 8.3 | 6.2 |

2. Capital Investment.

National Economy gives a unique time series for total capital investment, year by year from 1929 through 1955, in constant "1955 prices." 7/ Derivation of such a series has been the goal of much research by Western analysts in recent years because aggregate investment is a major sector of GNP studies and it is a major contributor to economic growth. Another valuable table in the text 8/ gives the percentage of capital investment allocated for machinery and equipment during 1946-55. These data make it possible to derive the value of producer goods used in investment during these years.

The investment series given in National Economy is particularly valuable because it is inclusive of decentralized investment,* a category of investment that has been especially difficult

* Decentralized capital investment is investment which does not come under the rigid controls of the capital investment plan.

- 11 -

S-E-C-R-E-T

S-E-C-R-E-T

to quantify. Table 4* shows the extent of decentralized capital investment in the USSR by plan period. As indicated in Table 4, decentralized investment has borne a surprisingly stable relationship to total investment, and a rule-of-thumb 5-percent adjustment to total investment within the plan would be justified.

The price basis for the capital investment time series is specified as being in "prices of 1 July 1955." It is not likely, however, that all capital investment for the last 27 years was re-valued in 1955 prices. It is more likely that the total annual costs of capital investment or its components -- construction-assembly work and equipment -- were converted to a 1955-price-level base from the original prices by use of a cost index of some sort.

It seems most likely that two separate index series were used in making this conversion -- an index for construction-assembly costs and an index for equipment costs. Because the value of construction-assembly work for each year is published separately, as is the 1949-55 portion of a specific cost index for construction-assembly work, it is reasonable to deduce that there also exist both a time series for the equipment component of capital investment and a cost index pertaining to it.

Partial confirmation of this theory is given by the data on the relative shares of construction-assembly work of corresponding years according to two bases -- 1955 prices and prices of the current year. Table 5** shows the share of construction-assembly work relative to total capital investment, derived from two bases.

There is a wide discrepancy in the shares attributed to construction-assembly work. This discrepancy probably is due to a greater rise in construction-assembly costs during the last 20 to 30 years than in equipment costs.***

* Table 4 follows on p. 13.

** Table 5 follows on p. 14.

*** The time series for investment, construction-assembly, and equipment were probably derived in the following way. Deflator time series for construction-assembly and for equipment were derived on a 1955 price base. These deflators were applied to the corresponding data in current costs in order to derive the time series in terms of constant 1955 costs.

S-E-C-R-E-T

Table 4

Decentralized Capital Investment in the USSR, by Plan Period

| Plan Period | Capital Investment Within the Plan, (Billion Rubles) <u>b/</u> | <u>Decentralized Capital Investment <u>a/</u></u> | |
|--|--|---|---|
| | | Billion Rubles <u>b/</u> | Percent of Investment Within the Plan |
| First Five Year Plan (1928-32) | 58.2 | 3.4 | 5.8 |
| Second Five Year Plan (1933-37) | 132.5 | 8.9 | 6.7 |
| Third Five Year Plan (1938-41 -- 3-1/2 years) | 131.3 | 7.4 | 5.6 |
| July 1941-January 1946 | 131.6 | 3.2 | 2.4 |
| Fourth Five Year Plan (1946-50) | 311.1 | 15.4 | 5.0 |
| Fifth Five Year Plan (1951-55) | 593.7 | 31.6 | 5.3 |

a. Exclusive of collective farm investment and of capital repairs.

b. July 1955 prices.

- 13 -

S-E-C-R-E-T

S-E-C-R-E-T

Table 5

Construction-Assembly Work as a Percentage of Total Capital Investment
in the USSR, Derived from Two Bases
1928-34

| Year | 1955 Price Level <u>a/</u> | Prices of Current Year <u>b/</u> |
|------|----------------------------|----------------------------------|
| 1928 | 77 | 64.6 |
| 1929 | 85 | 62.2 |
| 1930 | 86 | 61.2 |
| 1931 | 88 | 64.7 |
| 1932 | 81 | 67.3 |
| 1933 | 77 | 64.1 |
| 1934 | 80 | 67.6 |

a. 9/b. 10/

The existence of a time series for capital investment in constant prices makes it possible to improve the cost index deflator now in use.* Preliminary tests indicate that the revisions will be within the margins of error previously established. A deflator index can function, among other uses, as a means for deflating annual investment in current prices as a part of the process of computing additions to capital stock on a constant-price basis and as a means for changing the price basis of investment data, such as reconciling investment data with GNP data on a different price basis.

Much valuable information on housing construction in the USSR is given in the new handbook. 11/ A table in the text 12/ gives the total volume of housing space by major cities of the USSR for the years 1926, 1940, and 1956. When these data are related to the population estimates for the same years, 13/ some significant conclusions about housing space per capita emerge. In 1956, Moscow, Minsk, Kuybyshev, Chelyabinsk, Kazan, Omsk, and Alma-Ata were among the cities having less housing space per capita than in 1926.

* Previous cost indexes had been derived by approximate methods, but now official data exist for investment in current prices and investment in constant prices -- $\frac{I_x}{I_K}$ equals cost index (year K as 100), where I_x equals the investment for the given year in current rubles and I_K equals the investment for the same year in the price level of a given year K.

- 14 -

S-E-C-R-E-T

S-E-C-R-E-T

C. Productivity and Wages.

No direct information is given in the new handbook on wages per worker or on the total wage bill. Some potentially useful information is given in the form of the breakdown of expenditures for construction-assembly work 14/ and the cost structure for industrial production, 15/ both of which separate the wage component.

Little new information is given on labor productivity, with the notable exception of a table on agricultural labor productivity, showing annual increases in productivity during 1950-55. According to the Sixth Five Year Plan (1956-60), labor productivity in the collective farms is to increase 100 percent in 1960 compared with 1955, whereas it increased only 38 percent in 1955 compared with 1950. Labor productivity of the sovkhoses is to increase 70 percent by 1960, whereas it increased only 24 percent in 1955 compared with 1950.

D. Industrial Production.

The new data do not cause more than minor revision of the estimated production time series for the more basic industrial commodities. In many cases, speeches in conjunction with the 20th Party Congress during February-March 1956 had given absolute production figures for 1955 and absolute targets for 1960. These figures had been expanded into year-by-year series by means of application of the announced annual percentage increases in production for 1950 through 1955 and by application of estimated percentage increases for 1956 through 1960. Thus, although National Economy in many cases gives the first published consecutive series of absolute figures for the postwar years, the estimates based on 20th Party Congress data are accurate by 1 to 5 percent. In most cases the discrepancy is due to rounding of the announced percentage increases. In some few cases, more significant discrepancies in data appear to exist,* but these generally can be explained in terms of slightly different definitions or coverage. In some important cases, National Economy gives data for commodities not previously reported -- mostly machinery and equipment items.

* For example, the data given in National Economy on metalcutting machine tools. 16/

S-E-C-R-E-T

S-E-C-R-E-T

The new data affect the index of gross industrial production computed by CIA in three respects, 17/ but the over-all revision needed at this time is negligible. The effects of the data are as follows: (1) revisions in the index arising from revised component production series are negligible*; (2) although some new information exists on products not previously included in the index, nonavailability of price information on these products precludes broadening the coverage of the index at this time; and (3) the new information on employment by branch of industry permits revision of the value-added weights,** but the impact of this revision on the index is negligible. The major effect of the new information is to increase confidence in the reliability of the CIA gross industrial production index.

1. Value of Gross Industrial Production, 1954.

National Economy has made possible derivation of the total value of gross industrial production for 1954 in terms of 1952 prices. In the past it has been possible to express industrial production in terms of the 1926/27 (fiscal year) prices by linking announced annual percentage increases in production to a known base figure, expressed in terms of 1926/27 prices. After 1952 the USSR utilized 1952 prices as its price constant for such series, but no published figure was available for the total value of Soviet gross industrial output in terms of 1952 prices.

The new handbook makes possible derivation of such a figure by supplying the vital information that in 1954 the gross industrial output of cooperative industry was 8.2 percent of total industrial output. 18/ It had previously been announced that in 1954 the gross industrial output of cooperative industry was 55 billion rubles (such a figure would be expressed in terms of 1952 prices, the established constant price base for valuation of industrial output during the Fifth Five Year Plan). 19/ Joining these two facts together, the estimate of the total value of gross industrial production of the USSR, in 1952 rubles, becomes 670 billion rubles.***

* See Table 9, p. 27, below.

** See Table 8, p. 25, below.

*** Because of possible rounding errors, the estimate ranges from 668 billion to 672 billion rubles.

S-E-C-R-E-T

S-E-C-R-E-T

This information is now being tested as to its reliability in relation to other information shedding light on the total value of industrial production. If the data are reliable, a great deal of additional data will become available. For example, the value of total production of consumer goods, of producer goods, and of machinery and fabricated products has been expressed as a percent of total industrial production. Thus there would be opportunity to value such data in terms of 1952 rubles.*

2. Soviet Failure in Production of Cotton Pickers.

An interesting table in the new handbook 20/ reveals a significant Soviet failure -- production of cotton pickers has dropped to 555 units in 1955 compared with 4,741 reported in 1950 and 10,000 estimated in 1951. The cotton picker is the most complex of all agricultural machinery and appears to represent a major engineering headache, and failure, to the USSR. Significantly, in 1955 and in early 1956 the USSR attempted to obtain prototype models from the US.

3. Larger Inventory of Metalforming Machinery Than Previously Estimated.

Despite Soviet emphasis upon the production of machine tools, production of a sister category of machinery -- metalforming machinery (such as forging machines and presses) -- has lagged far behind production of metalforming machinery in the US. The new handbook 21/ gives a new absolute figure for the park of metalforming equipment machinery, by number of units, as of 1 January 1956, a figure much larger than previously estimated. From this figure, it seems that imports of such equipment from the European Satellites had been in larger quantity than previously estimated or, as is more likely, that removals from the European Satellites, especially East Germany, had been more extensive than estimated. The effect of the new higher figure for the park of metalforming machinery is to increase the estimated Soviet potential either for increased production of consumer goods or for military end items.

* There is a further use of value to GNP studies. An absolute value figure for gross industrial output will facilitate construction of a value-added weight for industry in the preparation of the gross national product index.

S-E-C-R-E-T

S-E-C-R-E-T

E. Agriculture.

The data pertaining to agriculture in National Economy are mostly environmental in nature, dealing with the institutions of agriculture to a much greater extent than with the output. The new data which are provided are supplementary, filling out gaps in Western knowledge of Soviet agriculture but not necessitating major revisions of basic estimates as to strengths and weaknesses in that sector of the Soviet economy.

In general, the 1955 data reflect the impact of the "new lands" program and the other major changes in agricultural policy introduced after 1953. In 1955, compared with 1950, the total area of land sown increased 27 percent, land under grain cultivation increased 23 percent, and land in fodder increased 72 percent. These changes were especially pronounced in Kazakhstan, where the amount of land sown increased 2.6 times.

During the same period, which was characterized by consolidation but not expansion of collective farm holdings, a significant expansion did occur in the state farms, especially in the "new lands" area. Total land area sown by the state farms increased 84 percent. In Kazakhstan the number of state farms increased from 265 in 1950 to 632 in 1955.

Supplementary data have been supplied concerning the private plots of collective farmers and of state employees. The private plots of the collective farmers in 1955 comprised 3.1 percent of the sown land, 32 percent of which was devoted to vegetable-potato culture. Private cattle holdings of the collective farmers included 34 percent of the large horned cattle in the USSR, 42 percent of the cows, 29 percent of the pigs, 19 percent of the sheep, and 55 percent of the goats. In addition, the private plots of state employees comprised 1 percent of the sown land, 12 percent of which was in vegetable-potato culture. The cattle holdings of state employees included 11 percent of the large horned cattle in the USSR, 15 percent of the cows, 13 percent of the pigs, 3 percent of the sheep, and 28 percent of the goats.

F. Transport and Communications.

The new handbook does not list any major new categories of information on transport, although several additional years have been

- 18 -

S-E-C-R-E-T

S-E-C-R-E-T

added to time series previously given. Information on civil aviation is obscure. No absolute figures on aviation are given, and aviation's share in the total freight turnover is not presented.

Important new information is given in the handbook for Soviet civil communications, pieces of mail carried, telegrams sent, money orders sent, and number of telephone conversations. In addition, data are given on the total number of radio receivers and of television sets for recent years, including 1954 and 1955.

G. Foreign Trade.

Although information in National Economy on foreign trade is very limited in coverage, the information is important because it is the first detailed information on the composition of trade released in the postwar period. The commodity composition of Soviet foreign trade as presented in the new handbook in percentage terms rather than in ruble valuations is given in Table 6.

Table 6

Commodity Composition of Foreign Trade in the USSR
1938, 1950, 1954, and 1955

| <u>Commodity</u> | <u>Percent of Total Value</u> | | | |
|-------------------------------------|-------------------------------|--------------|--------------|--------------|
| | <u>1938</u> | <u>1950</u> | <u>1954</u> | <u>1955</u> |
| Exports | | | | |
| Machinery and equipment | 5.0 | 16.3 | 21.5 | 22.1 |
| Fuel and raw materials | 57.7 | 50.7 | 58.5 | 59.9 |
| Grain | 21.3 | 18.5 | 12.2 | 10.3 |
| Consumer goods | 16.0 | 14.5 | 7.8 | 7.7 |
| Total | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> |
| Imports | | | | |
| Machinery and equipment | 34.5 | 27.1 | 32.6 | 33.0 |
| Fuel and raw materials | 60.7 | 56.6 | 46.2 | 48.0 |
| Consumer goods | 4.8 | 16.3 | 21.2 | 19.0 |
| (Of which, meat and dairy products) | 0.3 | 1.9 | 6.0 | 4.2) |
| Total | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> |

S-E-C-R-E-T

Table 6 underscores the shift in the composition of Soviet exports away from grain and consumer goods exports into increasing emphasis on exports of machinery and equipment.

H. Index of Per Capita Consumption.

The final effect of the new data released in National Economy, including the new population figures, is to revise drastically estimates of postwar trends in the Soviet standard of living. The Soviet consumer is better off than had been believed previously. Per capita consumption now is estimated to be 40 percent above 1928 (instead of the previous estimate of 20 percent), and per capita food consumption now is estimated to have declined only 4 percent below that in 1928 (instead of the previously estimated decline of 15 percent). A new report is in process which will incorporate the data revisions affecting the index of total consumption. 22/

In terms of aggregate studies, a major new conclusion stemming from the new report is that the cost of forced industrialization since the war has been overestimated and that the "iron ring" around increases in living standards has been less tight than estimated.

I. Price and Cost Movements, 1950-55.

National Economy provides some important indexes of price and cost movements during recent years. Table 7* summarizes some of this information, which should be used carefully until more is known about the methodology used by the Soviet statisticians in the derivation of the various series.

During the period 1950-55, over-all investment costs have declined slightly more than construction-assembly costs. Procurement prices for equipment declined somewhat more than construction-assembly costs.

Equipment procurement prices appear to have declined significantly more than have total industrial production costs. This tends to confirm recent Soviet statements that in recent years equipment prices have been reduced more than prices of basic materials.

* Table 7 follows on p. 22.

S-E-C-R-E-T

S-E-C-R-E-T

In the state retail market, nonfood retail prices have not declined as much as retail prices for food items. Food retail prices have declined 31 percent from the 1950 level. As there had been a sharp rise in food prices between 1940 and 1950, this decline after 1950 still left food prices in 1955 41 percent above 1940 prices. During the same 1950-55 period, prices on the collective market rose 7 percent. Table 7* shows the indexes of price and cost movements in the USSR in 1950-55.

J. Education and Training.

Data given in National Economy give additional weight to recent Western estimates of the importance of Soviet training programs in higher education and in training of specialists. Strict comparability with corresponding US programs, however, involves analysis of the qualitative comparability, an analysis beyond the scope of this memorandum.

Data on the postwar decline in the number of grade-school children support a lowered estimate of the young population.

K. Regional Data.

National Economy presents many statistical series which are broken down by republics. Among these are series on the production of selected industrial commodities, land use, population, workers and employees, and retail trade.

The greatest disadvantages in the use of the breakdown by republics are created by the overwhelming size of the RSFSR, which comprises more than half of the population and almost two-thirds of the industrial strength of the USSR. This gigantic republic contains 8 of the 12 economic regions of the USSR. ^{23/} On the other hand, for Gosplan planning purposes, many of the smaller republics are amalgamated into larger economic regions. Thus the Turkmen, Kirgiz, Uzbek, and Tadzhik Republics are treated as a single economic region. Whereas the data by republics are useful to regional analysis, they are not as meaningful as data in terms of the Gosplan planning regions.

* Table 7 follows on p. 22.

S-E-C-R-E-T

Table 7
Indexes of Price and Cost Movements in the USSR
1950-55

| Year | Construction Assembly Costs <u>b/</u> | Capital Investment Costs | Price Changes Affecting Costs of | | State Retail Prices <u>a/</u> | | | Collective Market <u>d/</u> |
|------|---|--------------------------------|--|----------------------|-------------------------------|------|---------|--------------------------------|
| | | | Industrial Production <u>c/</u> | Production <u>e/</u> | Total | Food | Nonfood | |
| 1950 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 |
| 1951 | 93 | | 98 | | 91 | 89 | 95 | |
| 1952 | 89 | | 95 | | 88 | 82 | 95 | |
| 1953 | 89 | | 92 | | 78 | 72 | 88 | |
| 1954 | 88 | | 92 | | 74 | 69 | 81 | 103 |
| 1955 | 82 | 81.5 <u>e/</u> | 95 <u>f/</u> | | 74 | 69 | 81 | 107 |

a. 24/b. 25/c. 26/d. 27/

e. Estimated.

f. Increase during 1955 was caused largely by increased procurement prices for foodstuffs.

- 22 -

S-E-C-R-E-T

S-E-C-R-E-T

L. Military Production Index.

National Economy gives new data which ultimately will assist in the derivation of a time series index for production of military end items. The new data, however, are not adequate in themselves, and some major gaps in information still exist. A production index for machinery* is given as well as a production index for consumer durables. In addition, it will be possible to derive an index of producer goods used in capital investment. It may be possible ultimately to derive value weights for a given year for investment goods and for consumer durables. Production series given for specific items aid in the derivation of a civilian machinery index. The derivation of an index series for production of military end items classified as machinery is hindered by the lack of a figure for the total value of output of machinery in a recent year and of a firm time series for the value of exports and imports of machinery.

III. Significance of Omissions of Data.

As previously indicated in the Introduction, many major categories of information are lacking from the new handbook, National Economy. To summarize, no data are given which pertain to budgets, finance, defense, wages, aggregate value of production (in total or by branch of the economy), investment by industry or by branch of the economy, state reserves, or production of light metals. Comparatively little information is published concerning foreign trade, agricultural production, communications, and the production of such important industrial commodity groupings as chemicals.

Although many of the omissions would appear to be required by strict adherence to the State Secrets Act of 1947, some agitation for even greater liberalization of information controls has already emerged in the Soviet press. Thus an article written in Pravda asks, "Can Narodnoye khozyaystvo be the first robin heralding the coming statistical spring?" ^{28/} The same article goes on to state that it would be desirable for the Central Statistical Administration to give more attention and space to composite data in future statistical handbooks: "Data concerning the budget and credit, profits and their

* The category "machinery" is used in the comprehensive sense and includes goods more strictly defined as equipment. Previous index series had been given for the more inclusive category of "machinery and fabricated products."

- 23 -

S-E-C-R-E-T

S-E-C-R-E-T

distribution, the profitability of individual branches of the national economy, the cost of shipments, tractor operations at the MTS, state farm output and other general economic indexes which are still missing in Narodnoye khozyaystvo will now undoubtedly assume prime importance."

Among the gaps in information is one of a different type and one of great importance. In many of the time series presented in the book, the years 1951, 1952, and 1953 are omitted. This is most obvious in the case of the production series for various producer goods. The result of this omission is to make it difficult to analyze the effect of the Korean War on the Soviet economy. The production series on output of tractors do include these years and reveal, as previously estimated, a significant reduction in the level of production. Data on production of locomotives also indicate a significant cutback during the Korean War, as previously estimated.

Despite the gaps in coverage, a significant liberalization is occurring in the release of economic information by the USSR. In consequence, officially published statistics should be of greater assistance in the analysis of the Soviet economy.

- 24 -

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX A

STATISTICAL TABLES

Table 8

Effect of Revised Value-Added Weights
on the Index of Industrial Production
in the USSR
1948-61

I. Revision of Weights

| Sector | Value-Added Weights (Percent) | |
|-----------------------------|----------------------------------|-----------------------------|
| | Computation A ^{a/} | Computation B ^{b/} |
| Electric power | 3.7 | 2.9 |
| Solid fuels | 9.5 | 10.5 |
| Petroleum and its products | 4.0 | |
| Ferrous metals | 7.1 | 10.5 |
| Nonferrous metals | 3.6 | |
| Forest products | 7.1 | 12.8 |
| Chemicals | 3.3 | 3.6 |
| Construction materials | 4.6 | 5.5 |
| Total materials | <u>42.9</u> | <u>45.8</u> |
| Fabricated metals | 33.9 | 34.8 |
| Manufactured consumer goods | 11.0 | 12.5 |
| Food products | 12.2 | 6.9 |
| Total | <u>100.0</u> | <u>100.0</u> |

a. Computed by using 1 January 1951 employment by branch of industry as announced in the Fourth Five Year Plan (1946-50) fulfillment, average wage data per industry from the 1941 Plan, and amortization data based on adjusted data from the 1941 Plan.
b. Computed by using data on employment by branch of industry as published in National Economy, together with average wage and amortization data used in computation A.

S-E-C-R-E-T

S-E-C-R-E-T

Table 8

Effect of Revised Value-Added Weights
on the Index of Industrial Production
in the USSR
1948-61
(Continued)

II. Effect of Revision of Weights upon the Index
of Industrial Production

| Year | Index of Industrial Production (1955 = 100) | |
|------|--|-------------------------|
| | Computation A <u>c/</u> | Computation B <u>d/</u> |
| 1948 | 41 | 41 |
| 1949 | 49 | 49 |
| 1950 | 57 | 57 |
| 1951 | 65 | 64 |
| 1952 | 69 | 69 |
| 1953 | 78 | 78 |
| 1954 | 88 | 88 |
| 1955 | 100 | 100 |
| 1956 | 111 | 111 |
| 1957 | 122 | 122 |
| 1958 | 135 | 136 |
| 1959 | 149 | 150 |
| 1960 | 165 | 166 |
| 1961 | 182 | 183 |

c. Constructed by using value-added weights noted in
computation A.

d. Constructed by using value-added weights noted in
computation B.

S-E-C-R-E-T

S-E-C-R-E-T

Table 9

Effect of Data Revisions on the Index of Agricultural Machinery
in the USSR
1948-61

| <u>Year</u> | <u>Previously Published CIA Index ^{a/}</u> | <u>Index Based on Data Given in "National Economy" ^{a/}</u> |
|-------------|---|--|
| 1948 | 27 | 27 |
| 1949 | 30 | 30 |
| 1950 | 33 | 33 |
| 1951 | 38 | 38 |
| 1952 | 42 | 42 |
| 1953 | 55 | 55 |
| 1954 | 77 | 77 |
| 1955 | 100 | 100 |
| 1956 | 112 | 114 |
| 1957 | 123 | 128 |
| 1958 | 136 | 143 |
| 1959 | 146 | 157 |
| 1960 | 162 | 176 |
| 1961 | 170 | 185 |

a. A Sixth Five Year Plan (1956-60) goal of a 76-percent increase in the output of farm machinery was indicated in National Economy. This is a revision of the original Sixth Five Year Plan draft directives which announced a goal of a 62-percent increase in the output of farm machinery during 1956-60. This revision, however, would not change the ORR index of fabricated metals during 1956-60, because the official Soviet goal of an 80-percent increase in the fabricated metals sector of heavy industry was accepted by ORR in the construction of the previously published index. 29/

- 27 -

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX B

SOURCE REFERENCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

| <u>Source of Information</u> | <u>Information</u> |
|------------------------------|--------------------------------|
| Doc. - Documentary | 1 - Confirmed by other sources |
| A - Completely reliable | 2 - Probably true |
| B - Usually reliable | 3 - Possibly true |
| C - Fairly reliable | 4 - Doubtful |
| D - Not usually reliable | 5 - Probably false |
| E - Not reliable | 6 - Cannot be judged |
| F - Cannot be judged | |

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."


Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

-
1. USSR, Central Statistical Administration. Narodnoye khozyaystvo SSSR, statisticheskiy spornik, Moscow, 1956. U. Eval. Doc. (hereafter referred to as Narodnoye) Translated in CIA, FDD Translation no 566, 29 June 56, The National Economy of the USSR, a Statistical Compilation. OFF USE. Eval. Doc. (hereafter referred to as FDD translation)

- 29 -

S-E-C-R-E-T

S-E-C-R-E-T

2. Pravda, 7 Jun 56. U. Eval. RR 1.
3. CIA. CIA/RR IP-434, Soviet Capabilities and Probable Courses of Action Through 1961, 2 Apr 56. S. (hereafter referred to as CIA/RR IP-434)
4. Narodnoye (1, above), p. 190; FDD translation (1, above), p. 195-196.
5. Narodnoye, p. 33; FDD translation, p. 17.
6. Narodnoye, p. 32; FDD translation, p. 16.
7. Narodnoye, p. 158-159; FDD translation, p. 163-164.
8. Narodnoye, p. 160; FDD translation, p. 165.
9. 
10. Narodnoye, p. 158-159; FDD translation, p. 163-164.
11. Narodnoye, p. 162-164; FDD translation, p. 168-170.
12. Narodnoye, p. 164; FDD translation, p. 169-170.
13. Narodnoye, p. 24-25; FDD translation, p. 8-9.
USSR, State Planning Commission. Socialist Construction of the USSR, Moscow, 1939, p. 12-13. U. Eval. Doc.
14. Narodnoye, p. 169; FDD translation, p. 176.
15. Narodnoye, p. 93; FDD translation, p. 88.
16. Narodnoye, p. 55 and 60; FDD translation, p. 40-41 and 50-51.
17. CIA. CIA/RR IP-434 (3, above). S.
18. Narodnoye, p. 41; FDD translation, p. 24.
19. Pravda, 15 Dec 54. U. Eval. RR 2.
20. Narodnoye, p. 57; FDD translation, p. 45.
21. Narodnoye, p. 53; FDD translation, p. 38.
22. CIA. ORR Project 30.830, Consumption in the USSR, 1928-55 (to be published). S.
23. CIA. ORR/D/GC, Map no 13702 (4-55) USSR: Administrative Divisions and Economic Regions, Jan 55. U.
24. Narodnoye, p. 210; FDD translation, p. 215.
25. Narodnoye, p. 169; FDD translation, p. 176.
26. Narodnoye, p. 93; FDD translation, p. 88.
27. Narodnoye, p. 215; FDD translation, p. 221.
28. Pravda, 7 Jun 56. U. Eval. RR 2.
29. CIA. CIA/RR IP-434 (3, above). S.

25X1A5a1

- 30 -

S-E-C-R-E-T

Approved For Release 1999/09/21 : CIA-RDP79T00935A000400120002-6

S-E-C-R-E-T

S-E-C-R-E-T

Approved For Release 1999/09/21 : CIA-RDP79T00935A000400120002-6